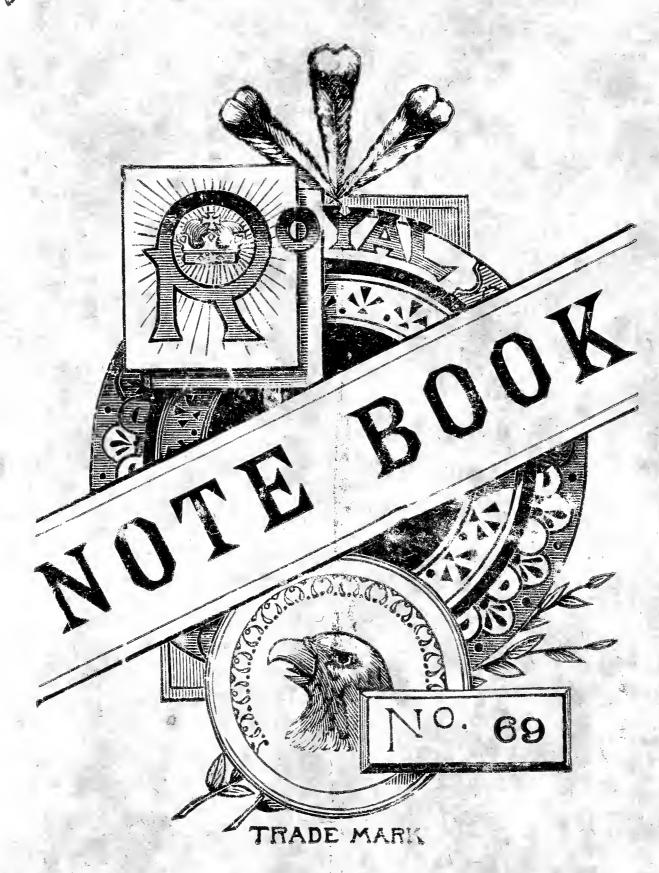
Holdman Mammal Holes. Jan. 222, 99ts.



Trena de alamos. near alamos. Suna de alamos. Sonora, Mexico. Jan. 2-#55. Dicotifles tajacu, Ocenis spannes on the lower stopes of the Suma. Odocorleng, Dur an not uneourson and are well dishibuted our the Suna. Sciums (13266?) Decuis Spaningly in the thickets of semi-tropieded vegetation covering lower slopes of Suna- The part lying Delow the lower edge of the oaks, spenns philus macroups, decus & paringly and istructed. Mestoma (13354) Lives about large rocks. Does not appear to pile up Sticksete, as a protection to its common among the oaks, Times about the Recompens. rocks, Fases of liers and other Abellie Reithodoutomys (13358) Fines in the grass among the oaks on hill slopes.

Tiena de alamos. Were laten in the same situations as
the precion species,
Thomomys as few signs were
sun arriving the oaks. Typus. Ocens very spangly. Felis onea Said to range spaningly to the loss of the Suina Occurs spaningly. Felis Concolor. Occurs spaningly. Typyer are not Pelis potted tigir cals are also rather common at least on the lower slopes of the mountains. Canis latians, Commen or lower slopes Occupan a fur oceur at least on lower slopes, Said & oceur, Masura namen, Occurs around Fase of Camoa, Camoa, Ris Mays. Sonora. Oct. 28 8 Nov. 8th 1898 and Jan. 11-25-1899. and are rand to be not rencommon. Deestyles lajacu. Not uneommon in the kells near leamon where they go in small parties of five Adocorlens Toeal name Furo" or Fura": Occurs un small numbers on the Jolanes between the Mayo and gagin never north & bamoa, This is the Black-tailed & pecus, Odocorleus Whele tailed den are found rather spangly along the num and in the hells near Camoa, Mayo name mass:

Camoa, Journal have lives the Footbills in hollow liver. They also make nexts of leaves among The Fanctus. They are rather weld and when one approaching the live in which they are they frequently former new down to the the bunk and If along the ground, at others limes they make their except by Junjary from hie to live formetimes they are Jours pershed on a Ly teerens, I found then Juding on the fruit of the self cotton tree. These ogunes scened to Le confined to the footbells ave none are found I think when The coast plan. Fremo Shelies macround (3403) Occurs rather spangly, Vary line en dunows along stone walls, trush Jeners and other Sheller, Spennophilus (3216) The small Themophile is apparently not common-at least not at at this season they are seldom seen. Thing lives in hobo in the ground among the eaching and marquites along the Mayo Rum and are prototy generally higherfaled over the coast plain. Acoloma 13246) Hot runcommon, This species Fulds tage July of streks etc. about its

Camoa. funow in thick clumps of cachines or other shormy vegetalien and about the Boses often of the meg queles. Sometimes en addition to a pule of sticks of the rane of a hie this is another up among the Francher, Heals are Jequenty placed high up among The Franches of the by leavens or hecho" as if is called by The natures and several lines I saw the caught gly glumpoer I the unal- outling among The handhes or on the nest. The botal name of the rat is tori's (13156) Unychomy, Robuneommon among the caluses and megquiles on the plans near Causa, Oeromyseus (3228) Rathu common and well distributed on the plans and in the foot Tulls. Most abundant in the Joothiele, where they love under the sheller of rocks etc. and feed langely on seeds of a certain species of Phonomys (13220), Ceeurs rather spangly on the planes along the Mayo Runn. Depodormy (13155), Rather common in the more sandy parts If the plane and along the rune, Usually each annual appears to have several entrances to its Sunow and usually one or two

Camoa, runways lead out from each en leance for 6-18 yels, Sometimes there rumays lead to another hole several yels, away, Alleromys (3234), Ocens spaningly in week patches and sheekets along the Mayo nine. Pergnactus. (13/60) The larger (of.) This species so rather common and generally distributed on the plans near leamon but is most abundant in weed paleties on sandy ground near the Mayo nuer. They down mall holes which enter the open ground. Verognachus (3167) Vaken un same places Ex pueding Fut is apparently less common, Mayo name Paros. (3345) (Jack) This species is not uncommon and es querally distributed on the plains and on the lower slopes of the Joothells but are most abundant along the Mayo Rune. They are as a mule not very wild and may easily be approached and shot The ofecus has a peculiar Labit when startled & summing If 8) Thowny the construction on sides and especially on hund qualtro en a very conspicuous manner, Instead of running shaight away they usually take a diagonal course and appear to conhact the dark fur on

Camoa. runf until it appears as a nanow dark stripe which is shongly drawn over to the side opposite the observer. at the same time the while for is drawn upward loward rump and thus rendered very conspecusus, Sometimes when altering its course so that the other side was exposed to the officer To my view I saw the dach line ferkel over to the side opposile-me, When on their forms no while fur us exposed to view by these rabbets and even when crounched down and often when Jeeding the while fur seems to be drawn down nearly out of over. It is only when startled or when in rapid motion that the while Jun becomes very conspicuous, an me or two oceasions of offered a rabbit lake hus a while kape from near the road orde and stop remaining crouched but with the dark fur contracted auto a narrow line and the while fur on hund quarter drawn upward un the manun alrealy described, I spoke of this habit to a native and he said he had often noticed it also, I think I have noticed the same haf from

Camoa. some of the while ordered I have noticed the same habit of the the plains of the table land but do not thing they have developed the taket to the vame entraordinary esting as the Repens The rabbils Live, Mayo name Patu. (132/5) Duch-common among the meggentes and carteres and other sheller near the Mayo Rever. They are less museur our most of the plain. Try are as a rule rather rusus Pleis suca, Fr a few occur in the Joothills and do great damage By billing cattle and horses. Usually only from one to two or three time in any one leveably and they usually more about a gust charge frequently from one place to another and the same tigin may kell an annal oud en one place en nut day kell another five or her mules away, I spent considerable tenie trying to secure a specimen hue dut every effort resulted un Jarline. They are said & take poison readily in most cases and are often hunted and pilled with dogs, I was assured that they do not as a rule take to a tree when pursued by dogs but keep going at a steady walk

Camoa. meanwhile Jighting the dogs, One morning I followed a trail made by a tiger the myses defore Inaugur down the Bed of an amongo, The annal stoffeel at Juguent internals to soute to and make a little exeavation among the Seaves, These excavations were smooth on the bottoms and ded not have the appearance of having Lunmade Ty the animals claws but by the paws week the claws sheathed, I was told by the natives that this was a common habit of its annual and also that they frequently choose the ted of an anoyo alto although havel along the sides The tegins slay in the Josepheles in the section and selden a never go out upon the coast plain. Helis (13259) Riger cats are router common un the foothells near Camoa, Most of the specimens out I presoned while beging to porom a tiger. Felis concolor, a few occur in the footbulls and are like the tiger destructive to cattle and horses on the stock ranges, The natives describe two varieties one which seems to be the ordinary one and The other sand to be denderen m'body, of a yellowest color wit Hack ears, muzzle and Hack-

Camoa, toped tail, I was also assured that the latter variety was much more couragious than The former, The local name The former variety frost mentioned is called leon' and the second onza" Felis (3271) The Tynx is rather common and zenerally dishibuted doct on the plains The Mayo, name for the animal is Buaslabo". The mexicans call it gato poche" (bot cut) Canis latians (3866), Sule-common on the planes and on the lower slopes of the Footballs, They do considerate damage by killing sheep and goots. Faid to come Reenis spangly. Mephitis (3198), abundant Judging from the Jacitily week I seemed opening from the Mays wdians, The whow kunted Them for me ne moonlegat nights. They use a long tote slender stick as on such occasions The Akunh are not sky they malfor are easily overlaken they deliberately knock the skunk down and Jefore he cando un some casus Jefore the animal could recover. they pounced upon et and brought it in to me alive, The indians call skunks Jupa" and

Camoa. do not appear to destinguist between Mephilis and Conepatus, Common as preceding. all of the Specimens latin mue capting For me by the undraws along the Mayo river. Varidea (13217) Rache common or the plans near teamon and up on the lower slopes of the Joothello. One day while uding along a track in the Joothills near leamon I van a badger eroso about 30 yolo. in front of me. I unmideately spund my horse after them and after running about 20 yds. he Sunow but instead of zoing at once to the Fottom he lumined and remained with his face towards me, looking out of the hole. I chicked my horse and whot him defore he deceded to leave tho entrance. Mayo undran name "Juni," according to the undraws the badgers time kell and eat a great many suchos raule suakes. Occurs o panyly Procym along the Mayo Run Mayo udean name matufari" Glasna nanca (13415) Reems stangly we the hells near Teamoa, Tocal name cholugo" (13/76) Long-eared Fort.

Many of these bats were found leving un an old house. (3407) Imall Tot. That flyng one evening near teausa, apacala Tehacala, Denavys, Mey, Feb. 24 st & Mar. 7 1 1899. alt about 3000 gt. Dedelphys (3456), Common and well dishibuted. Galund novements, Said to be not mucounou. - Opossums belong-Marmora ug to this gemes are said to occur in very small numbers, They make nexts which are placed among the leaves of the sugarcane, Jananas and un hollow logs and hus. Talusia novementa, Said to de not uncommon. Diestyles tajacu (3458), between Sail to be rather common in the less

frequented parts of the hells

lehacala. near Chacala. Odocoileus (3457) Not auncommon the the me the dense thefeets on most of the hels near, Chacala but very well and hard to seeme, Seines (3460), Found rather spaningly in the hot country man Below Chaeala and ranges up among the lower oaks near the Spermophilis macronus (the in small numbers in the hot country below tehacala where they live along stone walls and about large rocks on hell olopes. (3479) Occus Neoloma spanigly about the rocks. among the oaks above Chaeala. Kuthrodonlowys (3438), Not uncommon in the weed patches along the Fordus) ongar came fulls. Lignodn (3433), dank-Common in same places as preceding species and make well defined runways, through the gross and Veronyseus (13468), Oceus spanigly in the oak woods near the rocks and bases of large him, Thomormy (3485). Oceus spangly among the oaks near Chaeola but is more common

Chacala on the slopes of the hells in the hot country below wherever the soil is dup and loose, Heleronus (13435), Not rencommon and well distributed from the lower edge of the oaks down nuts the hot country, Elswally later in Thickets or anound the rocks in langled paleties of weeds and vines on hell slopes. Terognathing (3437), appeared to de nather scarce along the lower edge of the oaks near Checala but are no doubt common lower down I found levering un the weed paleties in and around the cane guld gipus Cottalails occur But are very scarce and at the season of the year seldom seen. Heles mea, Occurs & panyly Helis concolor, a fur are sond to occur. Pelis (spotted), Tiger cats ocen u small numbus, ____ (lyny). Occurs open ungly. Comis lahans, Sand to occur spaningly, (13474), 200 + unevenuen Groeyon Que of the opecimens sent in was Suita miles figs. Others occur in larger, —

Charala which flow down the slopes near Chacala, Proceson, Tracks of comes were seen near bhaeala, Rasura (3459), Ractus common and well distributed every where below the lower edges The vake, Usually seen in swall parties usually very early un the morning or late in the weing They feed largely on the June & the weld Jig trees particularly stop plant or o' 355 locally known as chalate! (13493) Joseph with pouled ears.) A few were token in an old mur rear Charala. (3497) (Small yellow bat) Dire very abandant in same old mine as puelly speed. (13522) Bet, longeared) a few were found living in the same cave as the preseding species. 1/3520) (Bot, small, leaf mas noved) Ving abundant un Dance of mune as 20. 13493. Desmodus (13489) a sugle young undividual was pulled in the same nume of 20/3493.

tenhacar. Culiacan, Smaloa, Mujes. Mar, 11 to 26 1/899. Didelphys (black) (3589) a single specimen was laught in a hap set on the rank of the Vamagula nun. 21 was an old male, and he was in a very savage mood when I approached The hap in the morning. He did not posserin" at all But but at sweighting weeking reach and Froke some of his leeth undeting the hap, This species is no dout common. Mannova (3574) a pygny spoosum was caught in a mouse traps set under a rock among the lowest Joothiels. Paluari novimerneta, Fard to occur and Probably not uncommen a hunter 2 employed reported having helled one while hunting one day while I was at lewhalan. Dicotyles lajaen , Laid to occur poothiels back of the lown, Odocorlens Dun our sather sparing are not uncommon on the Jelans and un the foothier Fack of Centracan, They are Jone of the flowers of the morning glory him and when these his are Howing one of the Javorihways the natives hunt due is to search for them where

Culiacan. even the falling Howns are plenhful. Semus Ocens very spanningly mean in the low footbills near teuleacan. Spermophelus macrours, teomin and well distributed. They live in holes which enter the ground along finees, under hier and even sometimes very near hours. Nestona decus spangly in the footbills Peromyseus (3566) (Small brown) leeus spaningly un weed paletus along the nous near, The lown. (13575) Hothe Peromysous Poothills. Tigmodon (13556), a Jun are found in weed paleton in Julds along The nums near Euliaean. Kurthrodonlongs (3579), a few are found in the varue places as the puculing spieurs. Thomonys a few occurs on the slopes and along the Jare of the lower Joothiels. no signs of them were sun on the planes near Eularan. (13557) /207 uncommon in the weedpaletos in Julds along the num man bulacan and wellowy

Culiacan. Perognathin (13565), Hot meonmon along brush Junes and in theepets on the higher ground back from the numer near the Town. Perognathus (13572), This The smaller species appeared to de most afundant un the loose sandy soil, much the muis. council with a thin growth. of gross and weeds, near the runs, Lipus (13573), Jack rathets occur sparingly on the plans near the lown. Lepus (13598), Oleun near the rown. Telis onea. Said & ocean in small numbers un the hells, Felio concolor. a few occur un the hello. __ (lyng, Said to occur on the Jelamo. Filis Spotted train calo

Be not unesmuon
and & seem in small mundows at the glasse in the Como lahaws, Racher common on the planes. Fard & oven. Eliocyon Proeyon a Juv hacks were seen along the run, Hasua nanca, Katho Comman in Nhe hells.

Culacan Ryctenomia (13583), The specimen sent un was the only one sun. It was caught in The house one evening. Near Mayartan, Man 30 th to apr, 12 Didelphys (13632) (whele-sp.). teaught in a hot set near, The base of one of the hells. Dielephys (3650) (black of) Common. _(3658) a spermen Marmora Trought to me alive was very savage and anyour to Fele my Jugues. When hardled the ears were curled our Fackward en same manne that the common Didelphys curls them much pumlar circumptances, Taluria novimeneta, Land to ocen. Dacotyles tajacu. not un commun

un the hell near Mazarlan.

Mear Mazailan. Odococleus. Den ocenrather spaningly both in the near the coast. Jenns (3653), Decus on the slopes of the hiels, I found them Juding to some estimp on the large yellow flowers of a two which at this season has no leaves, They are rather weld and usually try to excape by running and jumping rapidly from the to the. Heoloma (13660) Ocemo way sparsingly about the rocks on the sloper of the bells. No signs were sun of peles of steeks or numora. The untrances to the burrows are holes which enter the ground around the rocks. Peromyseus and 3617), leeus the slopes of the hells, and about the bases of large true and along the banks of anoyor on the plan. Ruthodontonys (13640), a few seems along truth Junes and among the gross and weeds in cultivated fields. Thomomys (13633) Ocems spanninger on the slopes of the low hele and on the namour plane near the coast. Helionys (3615), Occurs rather spangly in the fills. They are most aburlant on

sloper on which the truther has Jun out and that have plunts of Frust and weeds are Journel. Perognathus (13616). Found gather bells and the on the plain. Fepus (3629) (colloctant). a large spieres is found in small numbers in the forests on the Topes of the hills. Tepus (Jack), Said & occur very sparingly on the most open parts of the plains. Telis onca Occurs But is very Felis concolor, Said & ocen my spannight in the Tulls. - Tyntes occur in mall number, Filis Spotted traitions are said & ocean rather Carris & Coyotas seem spanger. a Jun an llocyon found. Proceson (3623), Duch common along the edges of the lagoons and also occur in the Nasira nania, Faid & ocem m thotally, Faceoplingy (3624) The specimen lakers was shot while Hying about the one every. (Bat) (13626) a for much found in an old mine

Balamotal. Balamotal. Tonora, apr. 20-27th Dicolytes tajaen, a Juvare sand to occur in the hells. Odococleur, Den ocen spangly un the hells, Spennosbelis macrouns, a few occur in the hells, Spennophilus (3678). Ros mesmuon on the planes near Balamotal, Juny the warmen Louis of the day Habets similar & those of Spennophelis everywhere. Dung the warmen hours of the day they come out and mothe about for food and of the slightent alarm don't of to their holes at The does not appear very near and resually do not enter at once unless further alauned. Heoloma (13705), Ocens rather spanningly in thick paleter of cachines and thorny bushes on the plain, They truld large dome shaped nexts sheets over The Jurious and also muse nests of streks up among the Franches of thorny his and skubs, Well worm mungs lead out from the Francis and often count what appeared formers. (13686), Oerus very spannigly on the rocky hells. (13669) Rot Depodomys

Balamotal. sandy parts of the plain boundly the holes enter the ground among Supher or near the Janes of should, beach annual appears to make several holes and well worn munays lead out from them in various derections. Perognathus (13675), Raihu common over the more parely party of the plans near Balamotal. Tepus (13693). Vourd racher spanningly over the planes. have seen me had the same curious habet of exprosing thewhileon Hanks as the species found farther south of Comoa. Lepus . (13685) A small species is not uncommon on The The choyas" and other castures assering abundant. Felis Tympes are said to occur spangly. a few coyolis occur. Thocyon Fofes occur spanngly. Said Eoccur on Varidea che plans a Juv hacks were Procyon the shows of the pen near lagoon. (13706), The specimen Bat ___ out me was the only one sun. It was shot in a cave in The Triels.

Ceasas Frandes. Casas Francis, Epihuahua, Mepies, May 12th to June 10 1. alt. 4300 gt Didelpys and possum es Odocoilus Blacktailis den from the By station within two or there years but are now scarce in all this Odocoiling whitelailed dur are very abundant occording to reports rin the Suna Madre and a few occur in the footbells near leasas Grandes. antilocopia and some large caule ranches about 45 miles n. 20. 8 Copas franches, a few ocens in the hills near the lown but they are very scarce and said to be very wild said to be very weld. in some of the higher and more lugged Directed Juany and El Paro particularly near Fuzuan. Eynomy a colony is said to be found near on the plain near the leavas Grandes river about ten miles Spennophilus macronnes. a Junoceur on the rocky slopes of the low Farren usually live under the sheller flage rocks t Spennophelus (13719), Occurs racher spanned on the planes They are most abundant in the megginle cound area 40 5 miles east of the Ry, slation. Ohychomys (13714), lecus rather spanish county and plain a Jud miles east of the Ry station, Rhitrodouloungs (13717) Decurs grass near the niver and among the gross on the Jolain. not uncommon amon the saccalar grows along the river where they make many among the gross. They were rather hard to eater and only me specimen was laken a few steem on the dry plain also, in places where the gross grows unusually thick Peromyseus (13744), Cecus very stpaningly among the rocks and Peromyseus (3771) (while (13771) (white-fooled) not uncommon along the min whrever there are thick grass and weed patches. The only specimen laken was caught among Peromyseus The Lackaton gross near the rule. Thomomys (13738), Ocens rather spanigly but is generally listubulted our

Casas Gravdes. Depodorup opectabelis (13708). Why common and well distributed on the plain It impossible to cross the plan in any the conspicuous mounted of earth Depodonings (3709) not uneoumon in the meganile covered area a few miles east of the Ry. station, Their holes are usually one two or there in much and enter the ground mean the Fares of Firstipus (13720), Occurs opaning in some situations and has habits bimber Perognathus (13747), Found rather spanishy among the saccalor gross along the rain. They live in holes which often um nearly totally down the bunches of gross and have flu a worn place leading out for a Jobt or two from the enhance. Spannyly among the rocks on the slopes of the Barren tills Forling the valley. Perognathus (18750). The only spectrum latin was caught among the river The paccalon grass along the river Tipus tesiamus: (13727), Dark sided) Jackrassito are very numerous in the area plain covered with musel my quelis a few mules east of the Ry, station. Tepus allen! Ich. Helson Raus during a ride own the plan near the mund, severa whe seded jackistlets along the numer and un the mer quite could are a fur miles east of the station. They hide during the day denong the thick Bunches of mezqueles and when durin out often muleuto holes in the ground Delis (lynn) a Juvair said Camio Cogolis occur spannyly on the plain and in the tills Eliocyon and track; we seem along the min. (13777) mephilis. Probably not hopes recommon Provo zume caught un hopes set along the river Said & occur on the Taxolea





